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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,809	06/20/2003	Keith C. Hong	183-01	9261

27569 7590 04/13/2006

PAUL AND PAUL
2000 MARKET STREET
SUITE 2900
PHILADELPHIA, PA 19103

EXAMINER	
TSOY, ELENA	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 04/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/600,809	HONG ET AL.	
	Examiner	Art Unit	
	Elena Tsoy	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4,5,7-14 and 19-45* is/are pending in the application.

4a) Of the above claim(s) *19-38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4,5,7-14 and 39-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/04/2006 has been entered.

Response to Amendment

2. Amendment filed on 4/04/2006 has been entered. Claims 1-3, 6, and 15-18 have been cancelled. New claims 39-45 have been added. Claims 4, 5, 7-14, and 19-45 are pending in the application. Claims 19-38 are withdrawn from consideration as directed to a non-elected invention.

Double Patenting

3. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

4. Objection to claim 17 under 37 CFR 1.75 as being a substantial duplicate of claim 8 has been withdrawn due to cancellation of the claim 17.

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir.

1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Rejection of claims 1, 5, 7, 8 under the judicially created doctrine of double patenting over claims 1-12, 21, 25 of copending Application No. 10/600,847 has been withdrawn due to amendment.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Rejection of claims 1, 5, 7, 8, 13, 14 under 35 U.S.C. 102(b) as being anticipated by Joedicke (US 6,214,466) has been withdrawn due to amendment.

9. Rejection of claims 1, 5, 7, 8 under 35 U.S.C. 102(b) as being anticipated by Skadulis (US 3,528,842) has been withdrawn due to amendment.

10. Rejection of claims 1, 5, 7, 8 under 35 U.S.C. 102(b) as being anticipated by McMahon (US 3,507,676) has been withdrawn due to amendment.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 4, 5, 7, 8, 13, 14 and 39-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balcar et al (US 5022897) in view of Joedicke/Skadulis/McMahon.

Balcar et al disclose a process for producing roofing granules (See column 6, line 16), the process comprising preparing base particles from a mixture including glass dust, which is a common byproduct in the manufacture of various glass articles (claimed stone dust) such as soda/lime dust and high alumina soda/lime dust (See column 3, lines 40-48; column 4, lines 5-21; column 7, lines 25-28) and a sodium silicate or a **similar** substance (claimed binder) (See column 5, lines 51-52) in a *liquid* form (See column 6, lines 4-7; column 8, lines 24-26) in an amount of 10 wt % (See column 7, lines 23-24) to pelletize the dusts (See column 8, line 26) followed by heating the mixture to 1200 ^{0}C to achieve fusion (See column 7, lines 33-36). The prepared granules are insoluble and have many of the characteristics of soda lime glass with **high alumina content** (See column 6, lines 21-25). The mixture may be passed through a simple **extrusion** system to compact it into a rod which is then directed into a dryer and ground as illustrated by the box 25 (See column 6, lines 6-9). The melted material may be **fritted** for sale and subsequent reuse (See column 6, lines 10-11). The leachables from the frit (claimed porous inert base particles) would meet current EPA standards for drinking water. (See column 6, lines 11-12).

It is the Examiner's position that kiln is conventionally used for heating to temperatures of 1200 ^{0}C. It is also the Examiner's position that the prepared roofing granules have porosity within claimed range because they are prepared by a process substantially identical to that of claimed invention.

Balcar et al fail to teach that providing at least one inorganic algaecide on the base particles (Claim 39); the binder is aluminosilicate (Claims 40, 44).

Joedicke/Skadulis/McMahon teach that coating mineral base particles with a composition comprising zinc oxide, or zinc sulfide or cuprous oxide, kaolin (claimed aluminosilicate) and sodium aqueous silicate followed by firing the coating to insolubilize the coating provides the mineral base particles at algae resistant (See paragraphs 6-8 of the Office Action mailed on 8/10/2005).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have coated roofing mineral particles of Balcar et al with a composition comprising zinc oxide, or zinc sulfide or cuprous oxide, kaolin (claimed aluminosilicate) and sodium aqueous silicate followed by firing the coating to insolubilize the coating with the expectation of providing the desired algae resistant roofing particles, as taught by Joedicke/Skadulis/McMahon.

As to claims 13-14, Joedicke and Skadulis teach the claimed limitations (See paragraphs 6 and 12 of the Office Action mailed on 8/10/2005).

As to claim 40, as was discussed above, Balcar et al teach that a sodium silicate or a *similar* substance can be used a binder (See column 5, lines 51-52). Obviously a combination of a sodium silicate **and** a *similar* substance can be used a binder. It is held that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose. Balcar et al further teach that alumina in a glass material provides a glass which exhibits good hardness with a less reactive surface (See column 4, lines 9-11). Alumina is provided with the crusher dust (See column 7, lines 26-27). Balcar et al fail to teach that the high content of alumina may provided using aluminosilicate.

Joedicke/Skadulis/McMahon teach that sodium silicate may be used together with kaolin (aluminosilicate) to form a hard material after firing for forming roofing granules.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used sodium silicate together with kaolin (aluminosilicate) in Balcar et al with the expectation of providing the desired high alumina content since Joedicke/Skadulis/McMahon teach that sodium silicate may be used together with kaolin (aluminosilicate) to form a hard material after firing for forming roofing granules, and Balcar et al teach that a substance **similar** to sodium silicate can be used as a binder.

13. Claims 9-12, 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balcar et al in view of Joedicke/Skadulis, further in view of Ryan et al (US 6306795).

Balcar et al in view of Joedicke/Skadulis are applied here for the same reasons as above. Balcar et al in view of Joedicke/Skadulis fail to teach that an algaecide-forming compound is dissolved in a fluid to form a solution, the solution being drawn into the pores in the base particles by capillary action to form solution-laden particles, the solution-laden particles being subsequently treated to convert the algaecide-forming compound to an inorganic algaecide (Claim 9, 11, 12, 44); the algaecide-forming compound is a soluble copper salt (Claim 10).

Ryan et al teach that cuprous oxide can be incorporated into a porous carrier material such as silica/alumina (See column 10, lines 27-28) by impregnating the porous carrier material with an aqueous solution of copper salts such as copper nitrate using e.g. well known the pore-volume impregnation (PVI) method (See column 11, lines 4-7, 22-42, 50-67), air drying and calcining the impregnated porous carrier material at 200 ^{0}C-540 ^{0}C to convert the copper salt to cupric oxide, cuprous oxide, or a mixture of the two (See column 12, lines 1-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added copper salts such as copper nitrate in an aqueous coating composition of Balcar et al in view of Joedicke/Skadulis instead of Cu_2O (claimed slurry) before firing at 700 ^{0}F (371^{0}C) with the expectation of providing the desired intimate mixture of copper oxides with the porous carrier material since Ryan et al teach that cuprous oxide can be incorporated into a porous carrier material such as silica/alumina by impregnating the porous carrier material with an aqueous solution of copper salts such as copper nitrate using e.g. well known the pore-volume impregnation (PVI) method, air drying and calcining the impregnated porous carrier material at 200 ^{0}C-540 ^{0}C to convert the copper salt to cupric oxide, cuprous oxide, or a mixture of the two.

13. Claims 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balcar et al in view of Joedicke/Skadulis, further in view of Selvig et al (US 20030068303).

Balcar et al in view of Joedicke/Skadulis are applied here for the same reasons as above. Balcar et al in view of Joedicke/Skadulis fail to teach that inorganic algaecide is provide within the base particles (Claim 44).

Selvig et al teach that a solid carrier such as mineral granules (See P91, P93) can be provided with inorganic chemical fungicides (See P25) such as cuprous oxide (See P54) either by impregnating pellets of the solid carrier with an active ingredient or by pelleting a mixture of the active ingredient and powdered solid carrier (See P93). In other words, Selvig et al teach that impregnating pellets of the solid carrier with an active ingredient is functionally equivalent to pelletizing a mixture of the active ingredient and powdered solid carrier.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have pelletized glass dust together with cuprous oxide in Balcar et al in view of Joedicke/Skadulis instead of coating preformed granules with cuprous oxide containing

composition with the expectation of providing the desired algae-resistant roofing granules since Selvig et al teach that impregnating pellets of the solid carrier with an active ingredient is functionally equivalent to pelletizing a mixture of the active ingredient and powdered solid carrier.

Response to Arguments

14. Applicant's arguments with respect to claims 4, 5, 7-14, and 39-45 have been considered but are moot in view of the new ground(s) of rejection.

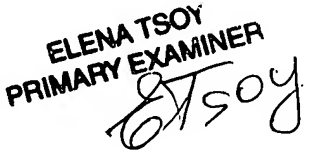
Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy
Primary Examiner
Art Unit 1762



April 11, 2006